WHAT IS CLAIMED IS:

1. In a process for removing gaseous pollutants from combustion gases comprising contacting a catalyst absorber with said combustion gases until the catalyst absorber is at least partially saturated, the improvement comprising regenerating the catalyst absorber with a regeneration stream of syngas produced in a gasification unit.

2. The process of claim 1, wherein the catalyst absorber comprises an oxidation catalyst.

3. The process of claim 2, wherein the oxidation catalyst is selected from the group consisting of platinum, palladium, rhodium, cobalt, nickel, iron, copper, molybdenum and combinations thereof.

4. The process of claim 3, wherein the oxidation catalyst is disposed on a high surface area support.

5. The process of claim 4, wherein the high surface area support is selected from the group consisting of alumina, zirconia, titania, silica and combinations thereof.

6. The process of claim 4, wherein the high surface area support is coated on a ceramic or metal matrix structure.

7. The process of claim 3, wherein the oxidation catalyst is coated with an absorber selected from the group consisting of a hydroxide, carbonate, bicarbonate and a mixture thereof of an alkali or alkaline earth and mixtures thereof.

8. The process of claim 1, wherein the syngas is cleaned in an acid gas removal unit.

9. The process of claim 8, wherein the acid gas removal unit removes a substantial portion of any sulfur components contained in the syngas.

10. The process of claim 8, wherein the syngas is passed through a shift reactor either before or after the syngas is cleaned in the acid gas removal unit.

11. The process of claim 10, wherein the shift reactor comprises shift catalyst.

12. The process of claim 11, wherein the shift catalyst converts at least a portion of any carbon monoxide contained in the syngas to hydrogen and carbon dioxide.

13. The process of claim 11, wherein the shift catalyst converts at least a portion of any carbonyl sulfide contained in the syngas to hydrogen sulfide and carbon dioxide.

14. The process of claim 10, wherein the syngas is passed through a hydrogen sulfide removal unit, the hydrogen sulfide removal unit removing at least a portion of any hydrogen sulfide contained in the syngas.

15. The process of claim 14, wherein the hydrogen sulfide removal unit comprises a zinc oxide bed.

16. The process of claim 1, wherein a portion of the syngas is combusted so as to produce power in a combustion turbine generator, thereby producing the combustion gases.

17. The process of claim 16, wherein the combustion exhaust gases are cooled in a heat recovery steam generator.

18. The process of claim 17 wherein the catalyst absorber is located within the heat recovery steam generator.

19. The process of claim 18, wherein the heat recovery steam generator is not taken out of service while the catalyst absorber is being regenerated.

20. In a process for removing gaseous pollutants from combustion gases comprising contacting a catalyst absorber with said combustion gases until the catalyst absorber is at least partially saturated, the catalyst absorber comprising an oxidation catalyst selected from the group consisting of platinum, palladium, rhodium, cobalt, nickel, iron, copper, molybdenum and combinations thereof, the oxidation catalyst being disposed on a high surface area support selected from the group consisting of alumina, zirconia, titania, silica and combinations thereof, the high surface area support being coated on a ceramic or metal matrix structure, and the the oxidation catalyst being coated with an absorber selected from the group consisting of a hydroxide, carbonate, bicarbonate and a mixture thereof of an alkali or alkaline earth and mixtures thereof, the improvement comprising regenerating the catalyst absorber with a regeneration stream of syngas produced in a gasification unit, wherein the syngas is cleaned in an acid gas removal unit for sulfur component removal from the syngas, the syngas also being passed through a shift reactor either before or after the acid gas removal unit, the shift reactor containing shift catalyst for conversion of at least a portion of any carbon monoxide contained in the syngas to hydrogen and carbon dioxide and conversion of at least a portion of any carbonyl sulfide

contained in the syngas to hydrogen sulfide and carbon dioxide, the syngas then being processed in a a zinc oxide bed.

21. The process of claim 19, wherein a portion of the syngas is combusted so as to produce power in a combustion turbine generator, thereby producing the combustion gases.